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10/029,253	12/28/2001	Sung Kwon Hong	K-0381	5027

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FLESHNER & KIM, LLP  
P.O. BOX 221200  
CHANTILLY, VA 20153

EXAMINER

TRIMMINGS, JOHN P

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/029,253

Applicant(s)

HONG, SUNG KWON

Examiner

John P Trimmings

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Claims 1-16 are presented for examination.

#### ***Priority***

The examiner acknowledges the applicant's claim of foreign priority to 12/29/2000.

#### ***Drawings***

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: FIG.2 101, 102, 103. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to because FIG.3 shows a decision box 201 which exits two separate ways but the two exits accomplish the same logic,  $e_{HARQ}(i)=i$  in box 203. Therefore there is no difference between "puncturing" and "repeat" in the said decision box. A proposed drawing correction or corrected drawings are required in reply

to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities: page 5 3<sup>rd</sup> full paragraph which begins, "(4) Hybrid ARQ Type II System with Full Retransmission..." has material missing from the paragraph, and does not end with a period. Appropriate correction is required.
5. The disclosure is objected to because of the following informalities: page 6 2<sup>nd</sup> full paragraph which begins, "An object of..." has redundant material in line 2, and is unclear to the examiner. The examiner believes that the phrase "providing a method of" in the subject line should be deleted. Appropriate correction is required.
6. The disclosure is objected to because of the following informalities: page 11 paragraph [0032] is unclear to the examiner. The examiner is not sure what takes place for "puncturing", and what takes place for "repeat", because the applicant has not shown any difference between the two quotes. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1, 4, 5, 8, 10, 11, 14 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The "initial error value" of the claims has not been defined in the specification, nor has its' function been explained, and so the examiner does not know how the value is used in rate matching, the function of this value in rate matching, or the actual operating range or initial setting of the value. Consequently, the examiner is unable to carry out or implement the invention.

8. Claims 2, 3, 6, 8, 10, 12, 14 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The  $e_{plus}$  or  $e_{minus}$  of the claims has not been defined in the specification, nor has its' function been explained, and so the examiner does not know how the value is used in rate matching, the function of this value in rate matching, or the actual operating range or initial setting of the value. Consequently, the examiner is unable to carry out or implement the invention.

9. Claims 9 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

invention. The " $PBR_{i\%K}$ " of the claims has not been defined in the specification, nor has its' function been explained, and so the examiner does not know how the value is used in rate matching, the function of this value in rate matching, or the actual operating range or initial setting of the value, because the value of K would be dependent on  $e_{plus}$  or  $e_{minus}$ . Consequently, the examiner is unable to carry out or implement the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**10.** Claims 1, 4, 5, 8, 10, 11, 14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner does not know what initial value would be originally given to the "error value" in the claims because the applicant has not defined it, and so the examiner is unsure of what function the value provides to the invention. Therefore, the claim is indefinite in pointing out exactly what benefit the claims perform.

**11.** Claims 2, 3, 6, 8, 10, 12, 14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner does not know what initial value would be originally given to  $e_{plus}$  or  $e_{minus}$  in the claims because the applicant has not defined it, and so the examiner is unsure of what function the value provides to the invention. Therefore, the claim is indefinite in pointing out exactly what benefit the claims perform.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1, 5 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kelkar et al., U.S. Patent No. 6345375.

As per Claims 1, 5 and 11:

Kelkar et al., teaches A method of setting an initial error value of a rate-matching algorithm in a hybrid ARQ system, the method comprising the steps of:

(a) determining an original initial error value, which is originally given for a rate-matching algorithm generating a rate-matching pattern for a hybrid ARQ system (column 10 lines 10-11);

(b) calculating a modular operator K (column 10 lines 12-13);

(c) calculating an incremental error value that depends on a number of retransmissions made (column 12 lines 15-16); and

(d) calculating a new initial error value by adding said incremental error value with said original initial error value (see Abstract, FIG.2B, and column 2 lines 43-67 and column 3 lines 1-18).

As per Claims 2, 6 and 12:

Kelkar et al., teaches The method of claim 1, 5 or 11, wherein said modular operator K is obtained by  $K = \text{integer}(A)$ , and integer (A) is defined by  $\text{integer}(A) = N(A)$  or  $N(A)+1$ , where  $N(A)$  represents the maximum of a set of integer numbers being less than A (column 2 lines 43-67 and column 3 lines 1-18, and column 10 lines 12-13 when  $A=0$ ).

As per Claim 3, 7 and 13:

Kelkar et al., teaches the method of claim 2, wherein said incremental value is obtained by,  $\text{incremental error value} = (i \bmod K) \cdot e_{\text{minus}}$ , or I (column 10 lines 8-16 when  $A=0$ ).

As per Claim 4:

Kelkar et al., teaches the method of claim 1, wherein said new initial error value is used for a downward link (column 10 lines 26-28) or an upward link (column 10 lines 29-31).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



13. Claims 8-10 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelkar et al., U.S. Patent No. 6345375, and further in view of Mihara, U.S. Patent No. 6226326.

As per Claims 8 and 14:

Kelkar fails to further teach the method of claims 7 and 13, wherein said new initial error value is obtained by an incremental change to an initial value. In an analogous art, Mihara does teach this in FIG.7 and the Abstract. One with ordinary skill in the art would combine the incremental treatment of the error rate by Mihara to the periodic rate adjustment of Kelkar et al. in order to achieve a real-time rate control. Mihara et al., in column 2 lines 36-63 recites the advantage of such a real-time control. One with ordinary skill in the art at the time of the invention, motivated as such by Mihara would combine the references as outlined.

As per Claims 9 and 15:

Kelkar fails to further teach The method of claim 6 and 12, wherein said first incremental value is obtained by a first list of numbers obtained by excluding any number being greater than or equal to K, where a number set represents a second list of numbers obtained by bit-reversing j with n, and n represents any integer number that satisfies K where K may be 0 (the equation in FIG.7 S11). And in view of the motivation above, the claims are rejected.

As per Claims 10 and 16:

Kelkar fails to further teach The method of claim 9 and 15, wherein said new initial error value is obtained by an incremental change to an initial value. In an

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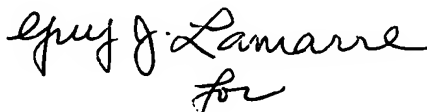
analogous art, Mihara does teach this in FIG.7 and the Abstract. And in view of the motivation above, the claims are rejected.

### **Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P Trimmings whose telephone number is 703-305-0714. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
for

Albert DeCady  
Primary Examiner

  
John P Trimmings  
Examiner  
Art Unit 2133

jpt